

Massachusetts Proposed NOx Allowance Trading Program

Massachusetts Proposed NOx Allowance Trading Program: 310 CMR 7.28



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MA NOx Allowance Trading Program: Driving Factors

- EPA NOx SIP Call
- 3-State MOU on SIP Call Budgets
- OTC NOx MOU
- Massachusetts Attainment Submittal

MA NOx Allowance Trading Program: Process to date

- February 1999: Data requested from sources
- March 1999: Pre-hearing draft regulation
- April 1999: Held 2 "rule review" meetings
- July 1: Issued draft regulation and technical support document

MA NOx Allowance Trading Program: Overview

- Initial three-year allocation (2003-2005), based on five years of historical output data
- Subsequent allocations: Annual, based on rolling historical output data
- Set asides for new units, energy efficiency and renewable energy development
- Allocation for useful steam output

MA NOx Allowance Trading Program: Budget Derivation

- Attainment Submittal:
Lower of SIP Call & OTC MOU
 - ◆ SIP Call & 3-State MOU, Including non-EGU: 13,206
 - ◆ OTC MOU, Including non-EGU: 13,194 Tons
- ➡ Budget Driven by OTC MOU

MA NOx Allowance Trading Program: Allocation Components (Tons)

- | | |
|--------------------------------|----------------|
| ■ Trading Program Budget | 13,194 |
| ■ New Unit Set Aside | - 660 |
| ■ Public Benefit Set Aside | - 1,320 |
| ■ <i>Budget for Allocation</i> | 11,215 |

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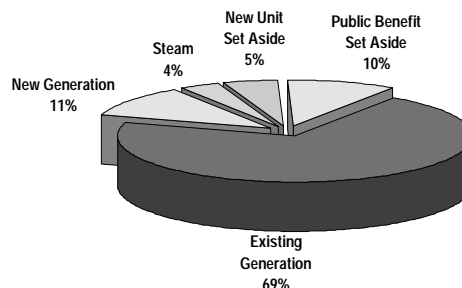
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MA NOx Allowance Trading Program: Allocation To Sources (Tons)

■ Existing Electric Generation	9,269
■ Existing Steam Generation	480
■ Recently Permitted Units	1,466
■ Total	11,215

310 CMR 7.28: Proposed Allocation



MA NOx Allowance Trading Program: Allocation Method

- Determine electrical output:
 - ◆ Existing units: Average over two highest of five years, 1994-1998, net electric generation
 - ◆ Recently-permitted: Nameplate capacity at 90% capacity factor
- Multiply electrical output by 1.5 lbs/MWh
- Add allocation for steam generation
- Adjust resulting allocations proportionately so that total of allocations is 11,215 tons

MA NOx Allowance Trading Program: Allocation for Useful Steam Output

- Data: Estimate of heat input dedicated to useful steam output
- Converted to tons based on following simplified assumptions:
 - ◆ Thermal efficiency 80%
 - ◆ Output standard of 0.44 lbs/mmBtu (conversion from 1.5 lbs/MWh)

MA NOx Allowance Trading Program: Data used

- February 1999 request: for 1995, 1996, & 1997 (full year and ozone season):
 - ◆ Heat input
 - ◆ Net electrical output
 - ◆ Estimate of heat input to steam output
- May 1999 request:
 - ◆ Additional years, 1994 and 1998

MA NOx Allowance Trading Program: Allocation to New Units from Set Aside

- Distributed 1st come/1st served based on following formula:

$$\frac{(\text{Nameplate Capacity}) * (3672 \text{ hrs}) * (0.9) * (0.2 \text{ lbs/MWh})}{2000 \text{ lbs/ton}}$$

Where
 0.9 = assumed capacity factor
 0.2 lbs/MWh = emission rate representative of recently permitted generation
- If new unit set aside depleted, may allocated from public benefits set aside
- Fold into program as existing source by 2006

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Schedule for promulgation of 310 CMR 7.28, MA Allowance Trading Program

- **July 1999** - Draft regulations issued for public comment
- **August 3,4** - Public hearings
- **August 6** - Written comments due
- **Fall 1999** - Issue final regulations
- **May 1, 2003** - Implementation
- Proposal available at: www.state.ma.us/dep
- Questions: Paul Hibbard 617.574.6801; paul.hibbard@state.ma.us

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